City of Salina

Building Advisory Board Agenda

MEETING DATE: **Tuesday**, **October 9, 2007**

TIME: **Start: 4:00 p.m.**

PLACE: City/County Building, Room 107

MEETING LENGTH: Estimated – 2 hours

AGENDA ITEMS: (A) Approval of September 11, 2007 minutes

(B) Amendments to the IBC

(C) Review of IRC Significant Changes

(D) Other business

Attention Roofing Contractors: Agenda Item "C" will include proposed code changes that affect your work.

All other Contractors: Agenda Item "B" and "C" regard proposed code changes that may affect the type of work you perform.

If you would like any of the staff reports for the above listed agenda items, please go to our website at www.salina-ks.gov, click on "Boards and Committees", click on "Building Advisory Board", then click on the link to the agendas and minutes. The staff reports are included in the agenda. These documents are posted to the website by the Friday prior to the Tuesday meeting.

You may also pick up copies of these staff reports in Room 201 of the City-County Building.

SUMMARY MINUTES

BUILDING ADVISORY BOARD TUESDAY – SEPTEMBER 11, 2007 – 4:00 P.M. ROOM 107, CITY-COUNTY BUILDING

Members Present: Dallas Bruhl, Diana Dierks, Bob Haworth, Vernie Stillings, Steve Barnett, Rick Walters, Kenny Hancock (arrived 4:24), Donnie Marrs (arrived 4:57),

Members Absent: Mike Prester, Bob Dolan, Jim Manley

Staff Present: Mike Roberts, Sue Cline

(Note: The agenda for this meeting was also sent to Class A, B contractors and local design professionals – total of 99 companies or individuals)

Audience Count: 2

Meeting was called to order by Bob Haworth, Chairman, at 4:05 pm

(A) Approval of August 14, 2007 minutes

MOTION: Vernie Stillings moved to approve the minutes as written

SECOND: Diana Dierks

VOTE: 6-0, motion carried

(B) Review of the proposed draft language to amend the 2005 NEC requirements for arc-fault protection

Mike Roberts presented the staff report for this agenda item *(see staff report)*

The board members briefly discussed this agenda item. This item was on a previous agenda and had been discussed at length. It is reviewed today to bring new members up to date on this item.

Dallas Bruhl offered comments in support of the arc fault requirements and said that it is time to get on board with this.

MOTION: Dallas Bruhl moved to accept the draft language as presented in the staff report and recommend adoption of that language

SECOND: Steve Barnett

DISCUSSION: None

VOTE: 6-0 motion carried

(C) Review of new requirements in the 2005 NEC for concrete encased electrodes with comment by the Salina Homebuilders Association

Mike Roberts presented the staff report for this agenda item *(see staff report)*

This agenda item was also discussed in a previous meeting, but was postponed to allow the Homebuilders Association time to present their perspectives.

Mike Flory, Homebuilders Association – presented comments in support of this requirement as long as Westar would accept the encased electrodes in lieu of the driven ground rod.

Mike Roberts reported that he did check with Westar they confirmed that they would accept this instead of the driven ground rod.

Bob Haworth reported that he recently tried this at a job site and it worked very well

Because the board is in support of the code requirements as written in the 2005 NEC, there is not a need for the board to take any formal action at this time. When the 2005 NEC is adopted that code requirement will then be in effect.

(D) Review of the <u>current</u> 2006 International Building Code amendments

Mike Roberts presented the staff report for this agenda item *(see staff report)*

(5:24 – Kenny Hancock arrived)

The board discussed this agenda item and reached a consensus indicating that they support the current code amendments as written with no recommendations for any changes with the next code cycle.

Mike Roberts explained that the main reason he wanted to present the current code amendments is because of the fact that Chapter 11 is amended out of the current codes and he wants to be sure that the board understands that they have the option to reconsider Chapter 11 with each code cycle review.

The board understood that recommending inclusion of Chapter 11 into the next code cycle would make the accessibility requirements more restrictive for private schools, churches and fraternal organizations.

Richard O'Farrell, O' Farrell Construction – offered comments indicating a concern that churches for example are used for more than just the church services. Outside organization use churches for other functions and he thought that perhaps they should be required to meet accessibility.

Mike Roberts explained further that the reason these types of organizations and buildings are not subject to the ADAAG requirements is because they are considered private versus public.

Mike Flory – offered comments indicating that he would not be supportive of including

Chapter 11 in the next code cycle, because it would be too costly for these types of organizations.

Bob Haworth – agreed and said that churches are not the same – some of them are very financially poor and shouldn't have more restrictions.

MOTION: Rick Walters moved to omit Chapter 11 from the 2006 code and make no changes to the currently adopted local code amendments and include those with the next code adoption.

SECOND: Diana Dierks

DISCUSSION: None

VOTE: 7-0 motion carried

(E) Review of the proposed amendments to the 2006 International Building Code

Mike Roberts presented the staff report for this agenda item *(see staff report)*

Each proposal included in this agenda item was discussed separately by the board.

Proposal #1 – Section 406.6.3 – Ventilation

Mike Roberts explained that this is basically an FYI at this time.

(Donnie Marrs arrived at 4:57 pm)

Proposal #2, Item #1 – Section 1003.5 Elevation change

Donnie Marrs – expressed concerns about this proposal, specifically the language in the last sentence of the first paragraph. He said that this is more restrictive than ADAAG and he would like this revision to be in line with ADAAG requirements.

Mike Roberts – asked Mr. Marrs if he thought the last sentence of the first paragraph should be delted.

Mr. Marrs indicated that it should

Mike Roberts indicated that proposal #1 would basically be a less restrictive code.

MOTION: Don Marrs moved to recommend approval of Proposal #2, item #1 with the deletion of the last sentence of the first paragraph: "w*here the difference in elevation is 6 inches, 152 mm, or less the ramp shall be equipped with either handrails or floor finish materials that contrast with adjacent floor finish materials"*

SECOND: Diana Dierks

DISCUSSION: None

VOTE: 8-0 motion carried

Proposal #2, Item #2, Section 1007.1, Accessible means of egress required.

Mike Roberts explained that most of the proposed changes to this amendment are necessary to clarify that ADAAG requirements apply and not the referenced code sections. Basically these changes are to clarify and stay in line with the fact that ADAAG requirements take precedent.

MOTION: Don Marrs moved to approve Proposal #2, Item #2 as presented in the staff report.

SECOND: Kenny Hancock

DISCUSSION: None

VOTE: 8-0 motion carried

Proposal #3: Item #1 Section 1008.1.4 Floor Elevation; Item #3 Section 1009.3 Stair Treads and risers; Item #4, Section 1009.10 Handrails; Item #5 Section 1012.5, Handrail extensions

Mike Roberts presented staff report

Don Marrs – expressed support for this amendment and commended staff for bringing the amendment proposal. He gave an example of a project that he designed which required a mezzanine mechanical room to meet the stair requirements that currently exist, even though it will be used very little by employees and not at all by the public.

MOTION: Don Marrs moved to approve Proposal #3, including items #1, #3, #4, #5 and not including item #2, which will be discussed separately.

SECOND: Rick Walters

DISCUSSION: None

VOTE: 8-0 motion carried

Proposal #3, Item #2, Section 1008.1.8.5 Unlatching

Mike Roberts presented staff report and explained the occupancy classifications that would be affected by this proposal

Dallas Bruhl expressed concerns about allowing this code amendment to apply to F-1 and F-2 uses

Mike Roberts clarified that the deadbolt locks that are keyed from the inside would not be allowed, only locks that can be unlocked by hand. Mr. Roberts also clarified that these types of locks are already permissible if they are not used in conjunction with any other type of latch. The proposal simply allows for two operations to unlatch a door instead of one.

Other board members offered examples of situations where factory workers might need to exit in an emergency situation. The board generally felt that they could do so safely with these types of locks in place on the doors.

MOTION: Vernie Stillings moved to approve Proposal #3, Item #2 as presented in the staff report.

SECOND: Diana Dierks

DISCUSSION: None

VOTE: 8-0 motion carried

Mike Roberts presented the remaining agenda item included in the staff report, which is a significant change to the 2006 IBC. Mike explained that in reviewing the new code he focuses on significant changes and brings those to the board.

The 2006 IBC will allow accessory buildings (conventional wood frame construction) up to 600 square feet to not be required to have frost proof footings.

The board discussed this change and agreed that they would not be supportive of this change and therefore would recommend a local code amendment to keep the maximum size at 400 square feet.

MOTION: Don Marrs moved to recommend a code amendment to the 2006 IBC which would keep the maximum size for accessory buildings without frost proof footings at 400 square feet.

SECOND: Dallas Bruhl

DISCUSSION: None

VOTE: 8-0 motion carried

(F) Other Business - None

Bob Haworth – adjourned the meeting at 6:00 p.m.

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Michael Roberts

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Staff Report

To: Building Advisory Board

From: Building Services Staff

Re: Amendments to the IBC

Date: October 9, 2007

Staff identified this item too late to bring to the Board at the September meeting. There is one other existing code section that we would request that the Board review. The 2003 IBC contained a provision for interior environments that was not previously included in the Uniform Building Code. Staff did not identify it as a change when we adopted the IBC. The provision reads as follows:

> **1204.1 Equipment and systems.** Interior spaces intended for human occupancy shall be provided with active or passive space-heating systems capable of maintaining a minimum indoor temperature of 68°F (20°C) at a point 3 feet (914 mm) above the floor on the design heating day.
> **Exception:** Interior spaces where the primary purpose is not associated with human comfort.

Several of the other model building codes did have mandatory heating requirements for some occupancies including residential, educational and institutional uses. However, the new language requires that any spaces intended for human occupancy must be provided with an active or passive space-heating system. Therefore, the provisions would not apply to occupancies that are specifically not intended for human occupancy such as warehouses that are not intended to be distribution centers in which employees would otherwise be expected to be working. The intent of the language means heating systems that would be integral to the building and not miscellaneous heat that might be generated by processing equipment that would be removed with the vacation of the building by a particular occupant or tenant.

The commentary to the building code explains that the exception was included to recognize that there are some types of uses that will be occupied by humans that cannot practically meet this requirement because of the nature of the processes that occur in those spaces. For example, refrigerated distribution warehouses could not meet this requirement nor could hospital operating rooms or some manufacturing operations that must be kept cool due to the products or materials used in the manufacturing process. We have also confirmed this interpretation regarding the intent through conversations with technical consultants from the International Code Council.

Staff is of the opinion that some minimum mandatory heating requirements should be in the code. However, we have had some feedback that requiring manufacturing facilities or distribution warehouses to be heated for the comfort of the employees is unreasonable, and that the exception should be much more broadly applied. Some stakeholders feel that heating the workspace is an employee benefit and should be left up to the owner to determine if that is a benefit they wish to provide instead of making it mandatory in the code. They further argue that in many cases, the owner will voluntarily provide some minimum amount of heat in order to maintain productivity. They would also argue that if their process could otherwise happen outdoors, they should not be required to provide heat for the workers just because it is happening inside of a building.

Since this was a new requirement in the code that was not identified in the original code reviews of the 2003 IBC, we felt that it was appropriate to bring this back to the Board for your discussion and to determine if any amendments should be made to this section.

Another requirement that was introduced in the 2003 IBC was for approval of material fabricators. The following is the text in question:

1704.2 Inspection of fabricators. Where fabrication of structural load-bearing members and assemblies is being performed on the premises of a fabricator's shop, special inspection of the fabricated items shall be required by this section and as required elsewhere in this code.

1704.2.1 Fabrication and implementation procedures. The special inspector shall verify that the fabricator maintains detailed fabrication and quality control procedures that provide a basis for inspection control of the workmanship and the fabricator's ability to conform to approved construction documents and referenced standards. The special inspector shall review the procedures for completeness and adequacy relative to the code requirements for the fabricator's scope of work.

Exception: Special inspections as required by Section 1704.2 shall not be required where the fabricator is approved in accordance with Section 1704.2.2.

1704.2.2 Fabricator approval. Special inspections required by this code are not required where the work is done on the premises of a fabricator registered and approved to perform such work without special inspection. Approval shall be based upon review of the fabricator's written procedural and quality control manuals and periodic auditing of fabrication practices by an approved special inspection agency. At completion of fabrication, the approved fabricator shall submit a certificate of compliance to the building official stating that the work was performed in accordance with the approved construction documents.

This requirement would apply to the fabrication of steel trusses as well as to structural steel components that are welded, thermally cut, bent or reformed. Under these requirements, the owner/developer has the option of hiring a third party inspection agency to approve the fabrication of the specific components to be used in the construction of their project, or they may obtain those components from a fabricator who has gone through the process to become approved by a third party approval agency. Since this was a new requirement in the code, and because there were not many local fabricators to our knowledge that have become approved fabricators, we have not aggressively enforced this requirement. However, we would like to bring this to the Boards attention for consideration of a code change or to direct staff to enforce the requirements as adopted.

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Staff Report

To: Building Advisory Board

From: Building Services Staff

Re: 2006 IRC Significant Changes

Date: October 9, 2007

We have only identified six items that we believe to be significant enough to bring to the Board's attention. We would suggest that the Board consider each item separately and either (A) recommend that the code change be accepted without amendment, (B) recommend an amendment or (C) recommend postponing action pending further public comment and discussion. A copy of this staff report has been forwarded to the Salina Homebuilders Association.

Items:

1. Probably the single most significant change to the code occurred in Section R404.1. This section deals with concrete and masonry foundation walls. It has long been acknowledged by engineers and building officials that the anchor bolts prescribed in the building code for the attachment of the wood floor system to the top of foundation walls will provide adequate restraint for uplift, but will not provide much bracing to hold the top of a wall that is very long and supports very much unbalanced backfill. A new section has been added which provides prescriptive lateral wall bracing details. If these provisions are not followed, an engineer would be required to design the foundation wall;

   Foundation walls that meet all of the following shall be considered laterally supported:

   1. Full basement floor shall be 3.5 inches (89 mm) thick concrete slab poured tight against the bottom of the foundation wall.
   2. Floor joists and blocking shall be connected to the sill plate at the top of wall by the prescriptive method called out in Table R404.1(1), or; shall be connected with an approved connector with listed capacity meeting Table R404.1(1).
   3. Bolt spacing for the sill plate shall be no greater than per Table R404.1(2).
   4. Floor shall be blocked perpendicular to the floor joists. Blocking shall be full depth within two joist spaces of the foundation wall, and be flat-blocked with minimum 2-inch by 4-inch (51mmby 102mm) blocking elsewhere.
   5. Where foundation walls support unbalanced load on opposite sides of the building, such as a daylight basement, the building aspect ratio, L/W, shall not exceed the value specified in Table R404.1(3). For such foundation walls, the rim board shall be attached to the sill with a 20 gage metal angle clip at 24 inches (610 mm) on center, with five 8d nails per leg, or an approved connector supplying 230 pounds per linear foot (3.36 kN/m) capacity.

   Without reproducing the tables referenced in the preceding language, staff would provide the following example of what these new requirements would mean; Given a 9' high basement wall with 8' of typical clayey sand backfill against the wall. Requirement #3 and Table R404.1(2) would require ½" anchor bolts to be installed every 9" around the basement perimeter. Requirement #2 would then require a 1-1/4-inch thick steel angle to be installed at every anchor bolt with the horizontal leg attached to sill bolt adjacent to joist/blocking and the vertical leg attached to joist/blocking with 1/2-inch minimum diameter bolt (it is not clear how the attachment is intended to be made to I-joists or trusses or what to attach the clip to when the bolt layout is closer than the joist layout). Requirement #4 would then require that blocking would have to be installed perpendicular to the floor joists through the length of the building (it

is not clear what the spacing of the rows of such blocking would be required to be although presumably it would have to be in line with the anchor bolts).

Although staff understands the intent behind these new requirements, we are not sure that they are clearly understandable as far as enforcement and are not sure that the cost-benefit ratio of applying the new requirements is reasonable based on our anecdotal experience that we have had no reports of basements that have been properly reinforced according to our local requirements having failed. Having said that, we would suggest that some basement contractors have already been addressing this matter by installing exterior buttresses on long basement walls that are not otherwise braced by egress window wells, porches or other perpendicular walls. It might be reasonable instead of amending out this provision altogether to provide some alternate prescriptively approved bracing method such as is already being used in some cases.

2. Similar to the IBC, IRC section R403.1.4.1 would now allow accessory buildings of conventional wood or steel framing to be up to 600 square feet in area before requiring a frost-proof foundation.
3. Sections R502.2.1 and R602.10.8 deal with the requirements for interior braced wall lines. The 2003 IRC contained new requirements for installing interior braced wall lines to transfer wind loads from exterior walls through interior walls into floors and eventually into the building's foundations. Part of staff's reviews of plans for new house construction has been to evaluate the placement of interior walls to verify that enough walls are in strategic locations in the proposed floor plan to meet these requirements. There are a variety of methods permitted in the code to construct these braced wall lines, including assemblies of properly fastened sheetrock. Usually the number of interior walls exceeds the number required to meet the requirements. However, the new requirements in the referenced sections will now require that designated interior braced walls must be supported by the following methods:

   "Where joists are perpendicular to the braced wall lines above, blocking shall be provided under and in line with the braced wall panels. Where joists are perpendicular to braced wall lines below, blocking shall be provided over and in line with the braced wall panels. Where joists are parallel to braced wall lines above or below, a rim joist or other parallel framing member shall be provided at the wall to permit fastening per Table R602.3(1)."

   In order to consistently apply these new sections staff would have to require that builders identify which walls they intends to designate as their interior braced wall lines on their plans at the plan review/ building permit stage so that we can approve their locations and verify during field inspection that the walls comply with these new requirements.

   Staff would support item #3 without amendment. Many of the recent changes in the codes deal with making building stronger to withstand more wind load. These changes are a reaction to the property losses suffered in many of the recent tornado and hurricane events. It is not the intent of the code to require homes to be built to withstand direct hits of tornadoes like the one that destroyed Greensburg. However, the lion's share of property loss is generally from the outlying winds of a tornado or severe thunderstorm and not from those buildings directly in the path of the tornado. Wall bracing requirements have been introduced in the code to provide basic low-cost engineering design to improve the performance of conventionally framed structures. We believe that implementing these requirements will provide contractors with a better understanding of the requirements in the code for the location and construction of these components without much added cost.
4. Section R702.4.2 will no longer allow moisture-resistant sheetrock (green board) to be used behind tile tub and shower walls. Staff would support this change and most builders already comply.
5. Section R703.2 and Table R703.4 would require that a water-resistive barrier would have to be installed under all exterior siding materials. Staff would support this change and most builders already comply. However, adding the cost of the house wrap to a house does make a difference if you weren't already planning on installing it as a matter of practice.
6. Last and probably the second most significant, section R907.3 has been changed such that because we are in an area prone to hail, asphalt shingled roofs can no longer be roofed over, but must be stripped to the sheathing each time a new roof covering is installed. Staff generally supports this change. Insurance loss records indicate that asphalt shingles that are not installed on a flat, rigid base are more susceptible to impact damage from hail than those that are installed over previous layers of shingles.